SOUTHERN PACIFIC COMPANY

SHASTA DIVISION

SPECIAL INSTRUCTIONS

No. 10

EFFECTIVE SUNDAY, JULY 10, 1960
AT 12:01 A. M.,
PACIFIC STANDARD TIME

SUPERSEDING SPECIAL INSTRUCTIONS No. 9

THESE INSTRUCTIONS CONSTITUTE A PART OF THE TIMETABLE CURRENTLY IN EFFECT

W. M. JAEKLE,
General Manager.

E. D. MOODY,
J. A. McKINNON,
M. A. McINTYRE,
Assistant General Managers.

J. M. HATCHER,
General Superintendent of Transportation.

J. P. GRIFFIN,
Superintendent of Transportation.

S. B. BURTON,
Superintendent.

⊙This symbol indicates change, except changes on rating of engines pages are not so indicated.

⊙**RULE A.** Employes must have a copy of Rules and Regulations of the Transportation Department, effective July 1, 1960.

RULE M. Employes are warned that it is dangerous to ride on top or side of cars while passing points where impaired clearance exists, and that they must protect themselves from injury. See list of impaired clearances on main track and siding.

There are numerous other structures with impaired clearance on yard and station tracks on the division, and employes must be familiar with their location and avoid personal injury.

⊙**RULE 7-B.** Yardmen must use green flag by day and green light by night in giving proceed signals for movement of trains and engines entering or leaving yards at Gerber, Dunsmuir Yard, Ashland, Klamath Falls Yard and Klamath Falls.

RULE 10-J. Speed signs prescribing an increase in speed will not be installed on branches. Speed Restrictions tables will indicate permissible speeds between mile post locations named.

RULE 102. Should a passenger train break in two or an emergency application of brakes occur while in motion on grade, head brakeman will immediately go towards rear, close angle cock at opening if train has parted, set hand brakes, and turn up retaining valves on detached portion. After train is coupled air must be applied from engine before hand brakes and retaining valves are released.

If necessary to leave detached portion on main track, rear truck of detached portion ascending grade or lead truck of detached portion descending grade must be blocked or chained in such manner as to derail car should there be an uncontrolled movement.

RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

PUSH BUTTONS

Where signal protection is provided for movements from an adjacent track to main track, push buttons and lights are installed in box near each of the two signals, with time-release feature, to clear signals on one track when the control circuit on the other track is occupied.

Train on main track to let train on siding pass may clear signal on siding by pressing button bearing number of signal on siding until light appears. Train on siding to let train on main track pass should not pass Approach Circuit sign, but when necessary to do so, may clear signal on main track by pressing button bearing number of signal on main track. Further instructions posted inside push button box.

ELECTRIC SWITCH LOCKS

Where electric switch locks are installed, lock-box door must not be opened if movement is to be made into a track leading from main track until engine or car is standing within 150 feet of the switch; or if movement is to be made from such track, or through a crossover to a main track, until block indicator indicates block clear on opposite track. Within CTC limits train dispatcher's permission must also be obtained before lock-box door is opened.

After lock-box door is opened lock lever cannot be moved to opposite position to release switch for hand throwing until indicator in lock-box indicates "unlocked".

Lock lever must not be returned to locked position until all movements over the switch are completed, switch returned to normal position and locked, (except at both crossovers opposite train-order office and Siskiyou main track at Black Butte, where lock levers must be returned to normal position after switch is reversed). After movements are completed switch must be returned to normal position and locked. Lock-box door must then be closed and locked. Within CTC limits, train dispatcher must also be notified by telephone when completed.

When block indicators indicate "block occupied", instructions posted inside lock-box for operation of push button to start time-release must be complied with if movement is to be made to main track while approach circuit is occupied by another train, in addition to providing flag protection when necessary.

Low type electric locks, such as are applied direct to lever of hub type switch stands, function as above except that the removal of the switch padlock has the same effect as opening the lock box door. Instead of being equipped with an "unlocked" indicator, these locks have a pilot light that indicates by illumination when the lock is unlocked.

When pilot light will not illuminate to indicate electric lock is unlocked, push button on adjacent cast iron box, protected with cover and locked with switch lock, should be depressed to illuminate green light. After a time interval of from one to seven minutes pilot light on electric lock will be illuminated, indicating lock is unlocked.

Emergency lock release to be used only in case of electrical or mechanical failure, as indicated by failure of time-release to function after several minutes. When necessary to break seal on emergency lock release, train dispatcher must be notified immediately, and movement made only after flag protection provided on both tracks.

CENTRALIZED TRAFFIC CONTROL

RULE 763. Light engines which originate and terminate within CTC limits need not display indicators, white lights or flags as provided for in Rules 21-A, 21-B and 21-C.

GENERAL REGULATIONS

RULE 824. At terminals where instructions require application of hand brakes on freight trains, outgoing crews must not release hand brakes until road engine is coupled and brake system charged.

⊙**RULE 827.** When train handling logs (except in gondolas) takes siding to meet an opposing train or allow a following train to pass, such train must be thoroughly inspected to see that proper clearance exists to insure safe movement for the expected train, and no movement of train on siding attempted until expected train has passed.

Between sunset and sunrise, track lights on rear of caboose must be illuminated (except when the helper engine is placed behind caboose) and trainmen must observe track for fallen logs.

RULE 836. When necessary to shove cars ahead of engine between stations on descending grade, cars must be chained to the engine unless air brakes are operative on all cars and air cut in.

⊙**RULE 873.** Sanders must not be operated between absolute or interlocking signals governing movement over dual control or power operated switches.

AIR BRAKE RULES

FREIGHT TRAINS

⊙**RULE 2-B.** When two or more engines are coupled running light, engineers in charge of trailing engines must not use dynamic brake.

RULE 3. Standard brake pipe pressure for No. 376 (Mdse), No. 377 (PCE) and No. 378 (PCE) is 90 pounds.

⊙**RULE 14.** Not more than four 6-axle units of dynamic braking may be used on head end of trains. Dynamic brake cable must be removed between fourth and fifth units in direction of movement and unit selector switch on lead unit placed in No. 4 position.

⊙**RULE 23.** Gondola cars SP 345000 to 345599 are equipped with AB brake system which has automatic change-over feature to provide proper brake function when car is loaded and when empty.

Before leaving a station or point where such cars have been added to the consist or where crews are changed, the outgoing engineer must actuate the automatic changeover feature by reducing brake pipe pressure to below thirty pounds whether cars are loaded or empty.

⊙MISCELLANEOUS

5. Helper service:

(a) Helper engines must not be placed behind wooden underframe equipment.

(b) Helper engines consisting of not more than two units may be placed behind caboose.

(c) Helper engines consisting of not more than four units may be placed immediately ahead of caboose.

Air will be cut in on all helper engines, and engines must not be cut off when train is in motion.

⊙**6.** Unless otherwise authorized trains handling passenger cars with flat spots on wheels in excess of 3¼ inches in length must not exceed 10 MPH; when flat spots are not in excess of 3¼ inches in length such cars may be operated at maximum authorized speeds.

24. Rotary snow plows will not clear certain structures, tunnels and cuts with wings extended; be governed by instructions posted in rotary cab.

Rotary snow plows must come to stop when train or engine is passing on adjoining track.

Flangers operating in snow territory must raise flanger blades and stop while train or engine is passing on adjacent track.

27. Should a passenger train be stopped in a tunnel, air conditioned cars within the tunnel must immediately have the air conditioning systems, including ice engines and engine generators, shut off, fresh air intake shutters closed, and blower fans shut off.

Should a train be stopped with the engine in a tunnel and it is found that, in the case of a passenger train it cannot be moved within five minutes after stopping, and in case of a freight train it cannot be moved within a reasonable length of time, trainmen and enginemen must take necessary precautions to prevent movement. Independent brake and sufficient hand brakes must be immediately applied. Engine wheels must be secured by blocks and chains, and power plants and steam generators, if any, on engine shut down.

28. DF-1 to 12 and DP class engines operated with engineer in other than lead unit in direction of movement, must not exceed 20 MPH when approaching highway or street crossing at grade, subject to further restrictions imposed by local conditions.

⊙**SPEED RESTRICTIONS FOR ENGINES:** Maximum speed shown below is subject to further restrictions applicable to certain territories as shown in Speed Restrictions for Trains:

NOMINAL CLASS	RUNNING FORWARD WITH TRAIN OR LIGHT	RUNNING BACK-WARD WITH TRAIN OR LIGHT
DF-1 to 12 with 60/17 gear ratio trucks	79	*30
DF-1 to 12 with 62/15 gear ratio trucks	70	*30
DF-15 with 61/16 gear ratio trucks	70	*30
DF-100, 115, 119	65	**65
DF-101, 103 to 112, except:	35	**35
On less than 90-lb. rail	25	25
DF-114, 117 with 62/15 gear ratio trucks	65	**65
DF-114, 117 with 65/15 gear ratio trucks	55	**55
DF-116, 118, 120, 121, 122, 124, 125	70	**70
DF-123, 126	65	**65
DF-200 to 206	55	**55
DF-300 to 306	65	**65
DF-307	60	**60
DF-500, 501	70	**70
DF-502	65	**65
DF-603, 606 with 61/16 gear ratio trucks	70	**70
DF-603, 606 with 60/17 gear ratio trucks	79	**79
DF-605, 607, 610 to 616	65	**65
DF-609 with 65/18 gear ratio trucks	70	**70
DF-608 with 74/18 gear ratio trucks	65	**65
DP	79	*30
DS-1, 4, 5	45	45
DS-2, 3, 6 to 12	60	60
DS-100 to 108, 110, 111, 113 to 115, 117 to 122	60	**60
DS-109	65	65
DS-200 to 205	35	35
RDC	79	*30
SP& SRy DE (Units No. 60 to 62, 65 to 84, 150 to 155, 200 to 213, 850 to 869)	65	65
WPRR D-239, 701 to 713, 725 to 732, 801A, 801D, 802A, 913 to 924	65	***65
GNRy GP-7, GP-9, RS-4, RS-5, A-F-A, A-F-B, SD-9	65	50
Any engine not listed	35	25

*When head end of train or running light and engineer is in other than leading control cab in direction of movement.

**When operated in multiple unit control with engineer in other than lead unit in direction of movement must not exceed 30 MPH.

***When operated in multiple unit control with engineer in other than lead unit in direction of movement must not exceed 20 MPH.

Maximum speed of trains handling diesel engines dead in train is speed shown for same diesel engine running forward light, except DS-200 and DS-201 class restricted to 30 MPH.

Diesel engines must not be moved dead in train unless properly prepared as prescribed by the rules.

Diesel engines weighing 150,000 pounds or more moving dead in train will be placed either first behind engine handling train or behind first car if loaded; diesel engines weighing less than 150,000 pounds must be placed near rear of train.

Dead or disabled engines, and equipment listed in timetable which requires movement at reduced speed must first be reported as ready to move to the chief train dispatcher, who will designate the train in which the engine or equipment is to be moved. Any such engine must not be handled in train until train-order designating maximum speed is issued.

Movement of foreign line engines, in service or dead in train, must not be authorized until provisions of current Line Clearance Circular have been complied with.

⊙MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT	MPH MAIN TRACKS OTHER THAN BRANCHES	MPH MAIN TRACKS ON BRANCHES
Double or triple loads		25
Scale test cars	40	30
Cars with arch bar trucks	40	30
Steel pile-drivers, except:	40*	30*
SPMW 4088 (locomotive crane pile-driver)		
with boom detached and trailing	35*	25*
with boom attached and trailing	25*	15
Relief outfits with steam derrick, except:	45	25*
Nos. 7007, 7009, 7012, 7019, 7033 and 7034	35*	25*
(Relief outfits 7014 and 7025 must not be operated on any branch.)		
Power shovel on own wheels	35*	25*
Ditchers on own wheels, except:	35*	25*
SPMW 4044	25*	25*
Car-top ditchers, if blocking and tie-down cables are removed	35*	25*
K&J pedestal or center-hinged air-dump cars, loaded or empty (except SPMW 5100 to 5289)	35*	25*
Locomotive cranes:		
with boom disconnected, heavy end forward	35*	25*
with boom disconnected, light end forward	20*	15
with boom in place, either end forward	25*	15
Rotary snow plows:		
Electrified	35	15
Steam	25	15

*These speeds must not be exceeded, and on curves where authorized speed is more than 15 MPH speed must be reduced to 5 MPH less than shown in timetable and on speed signs.

⊙OTHER MAXIMUM SPEEDS	MPH PASSENGER TRAINS	MPH FREIGHT AND MIXED TRAINS
Trains containing cars CG-50 to 63, MKT-45051 to 45070; NCStL-18097 to 18120 and 18263, 18349, 18481, 18498; RFP-280 to 288	60	60
Trains of deadhead equipment, with caboose	60	..
Passenger trains with caboose	60	..
Engine and caboose only, except:	..	60
must not exceed speed for same engine running forward light.		
Logs loaded on flat or logging cars, except:	..	35
On curves	..	25
Through truss bridges, tunnels, and passing stations	..	15

SPMW cars equipped with K type brakes must not be handled in trains consisting of more than 50 cars and train must not exceed 40 MPH while handling such equipment.

All cars handled in passenger trains must be equipped with steel-tired or all-steel wheels. Cars not so equipped must move in freight trains, passengers if any, to move on passenger trains.

Passenger carrying cars, baggage, express and other head-end cars, unless equipped with steel center sills and steel platforms must not be handled in passenger trains except on authority of Superintendent.

Freight cars must not be handled behind occupied passenger carrying cars, except in mixed trains in military or naval movements.

Baggage, express, mail, refrigerator or other head-end cars must not be handled on rear of passenger trains unless trainmen can pass through them.

Where mail, papers, or ice are to be dispatched from passenger trains at points where train does not stop, slow down sufficiently to permit safe dispatch without hazard, and stop at such stations for this purpose if train is moving on adjoining track between passenger train and point of exchange.

When moving against current of traffic, or when movement is not protected by block signals, speed of passenger trains and light engines must not exceed 59 MPH, and speed of freight trains must not exceed 49 MPH, nor may speed exceed that applying to normal operation. Unless proceed signal received, or it is known that warning devices are operating, such trains and engines must stop approaching road crossings where automatic warning devices are installed, and may proceed after member of crew protects crossing.

⊙**RULE 10-H.** On the Matheson Branch a green signal will not be displayed to the right of each track at the limit of restriction. Instead limit of restrictions will be indicated by a yellow signal displayed to the left of track in direction of approach. Speed may be resumed when engine reaches the yellow signal so displayed, or when it is known by engineer that rear of train has passed the limit of restriction as specified in train order or timetable bulletin.

⊙**RULE 10-H and 10-J.** Between Redding and Black Butte, speed signs may be displayed on a post below a yellow signal to indicate the maximum speed permitted one mile beyond the yellow signal. The number on such speed signs applies to all trains and should indicate the same speed as that designated by train order or timetable bulletin.

When speed signs are so displayed and the maximum speed indicated by the speed sign is in excess of that permitted by train order or timetable bulletin, be governed by the train order or timetable bulletin. In absence of such speed signs be governed by the speed designated in the train order, timetable bulletin or by Rule 10-H.

A green signal at the limit of the restriction will be displayed in accordance with Rule 10-H.

⊙**RULE 10-J.** Speed signs to left of track:

Eastward	Reading	Westward	Reading
MP 270.25	65-55	MP 244.49	65-60
MP 285.18	50		
MP 320.37	20		

Eastward speed signs at MP 272.06 is 0.63 mile instead of three-fourths mile from point of restriction.

⊙**RULE 10-H and 15.** On Matheson Branch, yellow signals and/or torpedoes will be placed one-half mile in advance of restriction.

RULE 14(k). Will not apply in CTC between west switch Dunsmuir Yard and Redding.

⊙**RULE 93.** Yard limits in which the provisions of Rule 93 will apply, except within CTC limits, are established at the following points:

West MP		East MP
211.82	Gerber	216.08
222.04	Red Bluff	224.63
256.10	Redding	258.74
"	(Matheson Branch)	259.23

Gerber: Westward trains, except first-class, must not pass east switch of crossover from main track to track No. 1 just west of Signal 2149, unless proceed signal received from yardman. Yardman must not line switch for westward trains to enter yard track until train has been identified.

Eastward trains, except first-class, must not pass crossover just west of Signal 2136 unless proceed signal received from yardman.

When a proceed signal is received from yardman, second- and inferior class and extra trains may proceed on main track within yard limits without clearing or protecting against first-class trains. Yardman's proceed signal will be an indication that protection has been provided against first-class trains.

Dunsmuir Yard: Eastward trains and engines receiving diverging route signal to enter west end of Dunsmuir Yard must not pass signal unless flashing white light is displayed on the reverse side of absolute dwarf signal located just east of the derail between main track and lead track at west end of Dunsmuir Yard. Flashing light signal is authority for trains or engines to enter Dunsmuir Yard yard tracks.

When westward train is ready to leave yard track Dunsmuir Yard, whistle signal — o — should be sounded when opposite microphone on pole just west of Little Castle Creek crossing for train dispatcher to line derail and switch.

Dunsmuir: Unit for display of flashing light located on mast between main track and track No. 1 near west switch of second crossover west of Butterfly Avenue. Westward trains or engines entering yard through crossover or on track No. 1 must not pass absolute signal displaying proceed indication unless flashing white light is displayed.

RULE 99-A. Flag protection to rear of train is not required when train is standing or delayed on main track between eastward absolute signal at west end of Dunsmuir Yard and westward absolute signal at east end of Dunsmuir, except when rear of eastward train is between Signal 3222 and next absolute signal located at east end Dunsmuir.

RULE 104. The normal position of rigid switches at end of double track and junctions is as follows:

Redding........Matheson Branch, for Silverthorn line.

RULE 221. Unit for display of flashing light installed at the following location:

Station	Location	Direction
Anderson	On train-order signal mast	Westward

Display of flashing white light indicates that train-order signal is displaying proceed indication or that train-order operator has train orders ready for delivery, that such train orders do not restrict train at that station, and that train, provided it is not restricted by timetable or by train orders previously received, may pass fouling point of switch at which an opposing train may enter siding or place where time applies if there is no siding.

RULE 306. The following block signals, equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Absolute signals are listed as "P-A":

Eastward Signal	Protection	Westward Signal
	Spring switch east end siding, Glade	P-2249
P-2330	Spring switch west end siding, Hooker	
P-A	Slide detector fence, MP 270.00, McColl	P-A
P-2720 / P-2742	Dragging equipment detectors, Pitbridge	P-2721 / P-2743
P-2720	Fire detector, Pitbridge	P-2743
P-2720	Slide detector fences, MP 273.70 and 274.10	P-2743
P-A	Fire detector, bridge 278.50	P-2793
P-2868	Slide detector fence, MP 287.60	P-2883
P-2882	Fire detector, bridge 288.50, and Slide detector fence, MP 296.00	P-A
P-3024	Slide detector fence, MP 302.70	P-A
P-3050	Slide detector fence, MP 305.60	P-3061

RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

Dunsmuir: Signal 3223, on track No. 1, governs westward movements through crossover to main track only, and will remain dark until crossover switch is opened.

RULE 516. Overlap posts:

Red Bluff: 600 feet west of east switch for eastward trains.

RULE 535. SPRING SWITCHES

Spring switches equipped with facing point locks are located as follows:

Location		Normal Position
Glade	East end siding	Main track
Hooker	West end siding	Main track

Spring switches not equipped with facing point locks are located as follows:

Location		Normal Position
Dunsmuir Yard	East end track No. 18	Drill Track
Dunsmuir Yard	East end Diesel track	Engine Lead

Each of above switches equipped with switch-point indicator. Indicator does not indicate track occupancy but when displaying green or red aspect governs westward movements as follows:

Green......Switch lined to normal position.
Red........Stop and do not proceed until authorized by yardmaster or his representative unless switch is being hand operated for the movement.

RULE 605. INTERLOCKING

Redding: Interlocking limits extend from eastward home signal 545 feet west of train-order signal, to beginning of CTC at fouling point of siding.

Top unit of westward absolute signal at east switch siding will govern trains entering interlocking on main track. Bottom unit governs movement on diverging route to end of CTC only.

Trains or engines must get permission from operator at Redding by telephone located near interlocking signals before leaving the Matheson Branch, or Sterling Lumber spur or Old Diamond Match spur, or before moving eastward through crossover at overhead bridge.

Call-on dwarf light signal on siding near crossover at west interlocking limits. When flashing white light displayed authorizes train to proceed on siding to beginning of CTC.

Call-on dwarf light signal near east end track No. 1. When flashing white light displayed authorizes eastward train on track No. 1 to enter main track.

These flashing white lights do not dispense with the use or the observance of automatic, interlocking or other signals, or Rule 513.

When automatic signals within Redding interlocking limits display stop indication, operator's permission must be obtained before train proceeds as prescribed by Rules 507, 509 or 510.

RULE 705. LETTER TYPE INDICATORS

Indicators located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and requires movement as follows:
M	2556	Redding	Proceed to fouling point east end track No. 1; and may then proceed to interlocking limits if track is clear and interlocking signal displays proceed indication.
S	2556	Redding	Enter siding.
S	2556	Redding	No. 378 enter No. 1 track.
M	2585	Redding	Proceed to fouling point west end siding.
S	2585	Redding	Enter track No. 1.

RULE 760. CENTRALIZED TRAFFIC CONTROL

Centralized Traffic Control extends from eastward absolute signal at fouling point east end of siding Redding, to east switch Black Butte.

Dwarf type indicators, to indicate dragging equipment, are located at the west and east end of Pit River bridge. These indicators apply to trains in both directions. These indicators display lunar for proceed, and red for stop indication.

Trains finding these indicators indicating stop, must stop and make inspection of train for dragging equipment and must obtain train dispatcher's permission before proceeding.

Three-unit absolute signal at the east end of siding at Lakehead governing westward trains is equipped with a "call-on" signal.

Top Unit..........Governs movement on main track,
Middle Unit.........Governs movement to siding,
Bottom Unit.........Governs movement to house track,
Call-on Signal (Flashing Yellow Light)...Proceed to couple to train on main track or siding.

Helper engine that is to move and couple to a train on main track or siding after receiving proper absolute signal indication, must stop on short track circuit, just east of 3-unit absolute signal, and wait for "call-on" signal to operate. When call-on signal displays a flashing yellow light, it confers authority to pass the 3-unit absolute signal indicating "stop", and move to the train occupying the main track or siding after such train has stopped and hand signal is received from member of train crew.

Telephone for communicating with train dispatcher located at:

Signal 2596, 2597, 2721, 2828, 2829, 2837, 2838, 2868, 2869, 2882, 2883.

RULE 763. Trains entering CTC limits at Redding will display same indication and signals to the end of the subdivision. Trains originating at other intermediate points in CTC limits will display indicators as an extra train unless otherwise instructed by train dispatcher.

Second paragraph of Rule 96 will not apply at Redding when there is no change in the number of sections of a schedule moving from CTC territory into train-order territory.

GENERAL REGULATIONS

RULE 825. Instructions for setting hand brakes:

Dunsmuir and Dunsmuir Yard:

Passenger trains	Two brakes on east end, Three brakes on west end.
Freight trains or cuts of 25 cars or less	Ten brakes on west end.
Freight trains or cuts of 26 to 50 cars	Ten brakes on west end, Five brakes on east end.
Freight trains or cuts of over 50 cars	Ten brakes on west end, Ten brakes in center of train, Five brakes on east end.

Staff brakes on freight trains must be set with the assistance of a brake club after train has stopped. Any employe releasing any of these brakes, must set as many others to replace them.

When it is necessary to double over incoming freight trains at Dunsmuir Yard, trainmen will secure that portion of train not doubled over, and yardmen will secure that portion of train doubled over, with the required number of hand brakes.

Girvan: Cars must not be spotted less than two car-lengths beyond derail on Oaks spur.

Anderson: Cars must not be spotted east of road crossing on Del Loma spur.

Portable rail skids are hung on posts at lower end of sidings at Glade, Central Valley, McColl, Lakehead, Delta, Lamoine, Gibson, Sims, Conant and Castle Crag.

When necessary to leave cars on these sidings, permission must first be obtained from chief train dispatcher, after which rail skid must be placed on rail and leading wheel of first car in descending direction run onto the rail skid, and hand brakes set if brakes are operative, before engine is detached. Trains picking up cars from these sidings must remove rail skid and return it to proper post and lock it in place with switch lock.

⊙RULE 827. At Gerber, forward brakeman of Nos. 10 and 12, will take a position on station side where rear of train will stop and make rolling inspection of train, then walk length of train on opposite side making standing inspection, giving careful attention to running gear and journal boxes, and entrain on station side.

On freight trains between Dunsmuir and Redding, member of train crew will observe track from rear of caboose (except when helper engine is placed behind caboose), so train may be stopped in event of derailment or other condition requiring stopping of train. Lights placed on rear of caboose will be used at night to assist in observing track.

RULE 837. When handling passenger equipment Dunsmuir or Dunsmuir Yard, single car must not be left on track not protected by derail.

⊙RULE 872. Enginemen taking charge of engines at Gerber will consider engines as having been amply supplied with fuel and sand.

AIR BRAKE RULES

RULE 2. When switch engine is used in Dunsmuir Yard limits, air brakes will be cut in on cars as follows:

TONS	BRAKES
750 to 1250	5
1250 to 2000	10
2000 and over	15

⊙RULE 17. Retaining valves will be used on freight and mixed trains on descending grades as follows:

With no dynamic brake in operation on trains handling over 1000 tons between Dunsmuir Yard and Delta, one retaining valve for each 150 tons in trains with minimum of 8 retaining valves turned up.

With no dynamic brake in operation between Middle Creek and Matheson, one retaining valve for each 60 tons in train.

When dynamic brake is in operation between Middle Creek and Matheson, and tonnage of train exceeds 700 tons per 4-axle unit or 1600 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train; except when dynamic brake is in operation with the pressure maintaining system of braking being used and tonnage of train exceeds 900 tons per 4-axle unit or 1825 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train.

FREIGHT TRAINS

⊙RULE 22. Trainmen must not couple air hoses on outgoing freight trains at Gerber and Dunsmuir Yard until they have been notified by the yardmaster or his representative that the switching has been completed. After trainmen have been so notified, yardmen must not perform switching on, or couple other cars or engines to the train without instructions from the yardmaster, or his representative, who must notify trainmen before the intended move is made.

⊙RULE 33. Maximum tonnage per operative brake between Middle Creek and Matheson is 60 tons.

PASSENGER TRAINS

⊙RULE 38. Trainmen must not couple or uncouple air hoses or steam conduits on passenger trains at Gerber and Dunsmuir until they have been notified by the yardmaster or his representative that switching has been completed. After trainmen have been so notified, yardmen must not perform switching on, or couple other cars or engines to the train without instructions from the yardmaster or his representative who must notify trainmen before the intended move is made.

⊙RULE 38-A. Will not apply at Gerber and Dunsmuir, except incoming engineer after completing stop will make a full service application leaving brakes applied. Running test in compliance with Rule 39 must be made as soon as speed permits after train departs terminal.

MISCELLANEOUS

⊙5. Not more than three units will be placed behind 80- or 85-foot trailer-flat cars between Delta and Black Butte.

⊙10. Engines listed are not permitted to operate on tracks shown below:

Class of Engine	Restricted Tracks
All	Delta—Beyond restriction sign on spur.
”	Sims—Beyond restriction sign on spur.
”	Lamoine—Little Slate Creek bridge.
All engines and cars	Crane spur off Koppers Company spur at MP 246.6 (west of Anderson).

11. Load limit (car and contents):

Gerber-Dunsmuir	251,000 pounds
Redding-Coram	240,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

13. LOCATION OF STOCK YARDS

Station	Capacity in cars
Red Bluff	30 (Water)
Cottonwood	30 (Water)

30.
LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE ON MAIN TRACK AND SIDINGS

MP	Location		Description
300.00	Lamoine	Bridge on siding	Side
301.80	Lamoine	Bridge No. 6	Overhead & side
302.20	Lamoine	Bridge No. 7	Overhead & side
305.30	Gibson	Bridge No. 8	Overhead & side
305.40	Gibson	Tunnel No. 13	Overhead & side
306.70	Fisher	Bridge No. 9	Overhead & side
310.60	Sims	Bridge No. 13	Overhead & side

⊙SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in SPEED RESTRICTIONS FOR ENGINES appearing on page 3 and MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT, and OTHER MAXIMUM SPEEDS appearing on page 4 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and INSURE SAFETY, REGARDLESS OF TIME.

TERRITORY (MP to MP)	PASSENGER TRAINS	FREIGHT AND MIXED	LIGHT ENGINES
Column:	1	2	3
EASTWARD, GERBER TO DUNSMUIR:			
213.80 to 216.08	79	55	70
216.08 to 223.18	79	60	70
★223.18 to 224.39 (Red Bluff)	25	25	25
224.39 to 226.20	65	55	65
226.20 to 226.61	60	55	60
226.61 to 230.62	65	55	65
230.62 to 230.92	60	55	60
230.92 to 233.60	65	55	65
233.60 to 242.46	79	60	70
242.62 to 243.74	65	60	65
243.74 to 258.00	79	60	70
★★258.00 to 258.80 (Redding)	20	20	20
258.80 to 259.66	50	45	50
259.66 to 261.17	60	55	60
261.17 to 269.05	65	55	65
269.05 to 270.25	50	50	50
270.25 to 272.69	65	55	65
272.69 to 273.35	50	45	50
273.35 to 275.40	60	50	60
275.40 to 275.76	50	50	50
275.76 to 277.47	60	50	60
277.47 to 281.00	50	50	50
281.00 to 285.93	60	55	60
285.93 to 288.66 (295.60)	50	50	50
295.60 to 321.12	30	25	30
★★321.12 to 322.10	20	20	20
MATHESON BRANCH: EASTWARD, REDDING TO CORAM	..	25	25

TERRITORY (MP to MP)	PASSENGER TRAINS	FREIGHT AND MIXED	LIGHT ENGINES
Column:	1	2	3
WESTWARD, DUNSMUIR TO GERBER:			
★★322.10 to 321.12	20	20	20
321.12 to 295.60 (288.66)	30	25	30
288.66 to 285.93	50	50	50
285.93 to 281.00	60	55	60
281.00 to 277.47	50	50	50
277.47 to 275.76	60	50	60
275.76 to 275.40	50	50	50
275.40 to 273.35	60	50	60
273.35 to 272.69	50	45	50
272.69 to 270.25	65	55	65
270.25 to 269.05	50	50	50
269.05 to 261.17	65	55	65
261.17 to 259.66	60	55	60
259.66 to 258.80	50	45	50
★★258.80 to 258.00 (Redding)	20	20	20
258.00 to 243.74	79	60	70
243.74 to 242.46	65	60	65
242.46 to 233.60	79	60	70
233.60 to 230.92	65	55	65
230.92 to 230.62	60	55	60
230.62 to 226.61	65	55	65
226.61 to 226.20	60	55	60
226.20 to 224.39	65	55	65
★224.39 to 223.18 (Red Bluff)	25	25	25
223.18 to 216.08	79	60	70
216.08 to 213.80	79	55	70
MATHESON BRANCH: WESTWARD, CORAM TO REDDING	..	25	25

★Regulated by City ordinance. ★★ICC Regulation, and PUC Order.

Light engines on descending grades without dynamic brake in operation must not exceed speed shown for freight and mixed trains.

Identified freight trains are authorized to operate at speeds in Column 1 of Special Instructions except maximum speed must not exceed 60 MPH, providing consist does not exceed 60 cars or 3000 tons and tonnage does not exceed 60 tons per operative brake. When operating at such speeds, standard brake pipe pressure of 90 pounds must be maintained.

Engine, flanger and caboose only may operate at speeds shown in Column 1, except maximum speed must not exceed 45 MPH on tangent track and 35 MPH on curves unless lower speed is required.

SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS	With Caution Not Exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
Through sidings and turnouts at Silverthorn, Central Valley, McColl, O'Brien, Mead and Lakehead	25
Through turnouts on other than sidings	10
On branches	10
Engines moving west over spur switch east end Lamoine siding	10

RATING OF ENGINES—In Units of 2000 Lbs. (Tons)

NOMINAL CLASS	ENGINE NUMBERS	Gerber to Delta	Delta to Dunsmuir	Dunsmuir to Gerber	Redding and Coram
DP-4, 7	6000 to 6004, 6017, 6018, 5900 to 5909, 5916, 5917	1250	1075	1950	....
DP-5, 6, 8 to 11	6005 to 6016, 6055 to 6058, 5910 to 5915; 6019 to 6033, 5918 to 5924; 6034 to 6045	1275	1185	1975	....
DP-12	6046 to 6054	1250	1075	1950	....
DF-1 to 12	6138 to 6461, 8022 to 8303, except	1475	1300	2225	....
	with 61:16 gear ratio	....	....	....	....
	with 60:17 gear ratio	....	....	....	....
DF-100	5200 to 5202	....	....	....	775
DF-101 to 108, 110, 112	4900 to 4902, 5203 to 5249, 5253 to 5278	1950	1700	3600	1175
DF-109, 111	4903 to 4905, 5250 to 5252	2925	2550	4450	1475
DF-114, 116 to 118, 120 to 122, 124, 125	5279 to 5293, 5308 to 5335, 5340 to 5444, 5449 to 5493	2400	2100	3700	1200
DF-115, 119, 123, 126	5294 to 5307, 5336 to 5339, 5445 to 5448, 5494 to 5507	2850	2475	4275	1450
DF-200 to 206	5100 to 5120	....	....	....	....
DF-300 to 304	4600 to 4623, 4700 to 4703	....	....	....	....
DF-305, 306	4624 to 4633	....	....	....	....
DF-307	4634 to 4645	....	....	....	....
DF-500, 501	4800 to 4815	....	....	....	....
DF-502	4816 to 4818	2375	2025	3500	....
DF-603, 605, 606, 607, 611	5600 to 5719, 5730 to 5799	1575	1375	2375	....
DF-608 to 610	5720 to 5729	....	....	....	....
DS-1 to 8	1000 to 1032	605	525	950	....
DS-9 to 12	1033 to 1090	....	....	....	....
DS-100 to 109, 111, 115, 119	1300 to 1441, 1464 to 1485, 1514 to 1528, 1551 to 1567	925	800	1425	....
DS-110, 114, 118	1442 to 1463, 1492 to 1513, 1539 to 1550	1200	1025	1975	....
DS-113, 117, 120 to 122	1486 to 1491, 1529 to 1538, 1568 to 1596	....	....	....	....
DS-200, 201	1900 to 1903	....	....	....	....

UNLESS AUTHORIZED BY SUPERINTENDENT, ENGINES WILL NOT BE PERMITTED TO OPERATE IN THOSE TERRITORIES WHERE NO RATING IS SHOWN IN ENGINE RATING TABLE.

⊙**RULE 10-H and 10-J.** Between Redding and Black Butte, speed signs may be displayed on a post below a yellow signal to indicate the maximum speed permitted one mile beyond the yellow signal. The number on such speed signs applies to all trains and should indicate the same speed as that designated by train order or timetable bulletin.

When speed signs are so displayed and the maximum speed indicated by the speed sign is in excess of that permitted by train order or timetable bulletin, be governed by the train order or timetable bulletin. In the absence of such speed signs be governed by the speed designated in the train order, timetable bulletin or by Rule 10-H.

A green signal at the limit of the restriction will be displayed in accordance with Rule 10-H.

RULE 10-J. Speed signs to left of track:

Eastward	Reading
MP 426.14	50-40

RULE 14(k). Will not apply in CTC between west switch Dunsmuir Yard and Black Butte.

⊙**RULE 93.** Yard limits in which the provisions of Rule 93 will apply, except within CTC limits, are established at the following points:

West MP		East MP
	Black Butte	346.49
	" (Siskiyou line)	346.50
405.87	Dorris	407.43
425.67	Klamath Falls	432.66
551.80	" (Alturas Sub.)	
345.64	Weed	350.08
359.89	Gazelle	361.89
375.04	Montague	376.34
392.26	Hornbrook	394.01
400.46	Hilt	402.98
426.92	Ashland	430.79

Dunsmuir: Unit for display of flashing light located on mast between main track and track No. 1 near west switch of second crossover west of Butterfly Avenue. Westward trains or engines entering yard through crossover or on track No. 1 must not pass absolute signal displaying proceed indication unless flashing white light is displayed.

Klamath Falls Yard: Eastward trains, except first-class, must sound whistle signal o — — o passing Signal 4274 and must not pass Signal 4286 unless proceed signal is received from yardman. Yardman must not line switch for eastward trains to enter yard track until whistle signal o — — o has been sounded and train has been identified.

Klamath Falls: Westward trains must not pass absolute signal displaying "Proceed on Diverging Route" at east switch unless flashing white light is displayed in signal on signal bridge at end of CTC.

Yardman's proceed signal will indicate that protection has been provided against first-class trains for trains moving between CTC limits and west end Klamath Falls Yard.

Movements of GNRy trains and engines between end of CTC and junction switch of GNRy will be directed by yardmaster.

RULE 99-A. Flag protection to rear of train is not required when train is standing or delayed on main track between eastward absolute signal at west end of Dunsmuir Yard and westward absolute signal at east end of Dunsmuir, except when rear of eastward train is between Signal 3222 and next absolute signal located at east end Dunsmuir.

RULE 99-C. Will apply on Black Butte Subdivision between Black Butte and Ashland.

RULE 103-A. Ashland: Cars or engines must not be left standing within control circuits of automatic warning device at Oak Street crossing. Movements stopped within the limits of these control circuits must not enter crossing until it has been ascertained that automatic warning device is operating.

RULE 104. The normal position of rigid switches at end of double track and junctions is as follows:

Mount Shasta . . McCRRR main track, for interchange track,
Black Butte . . . . Siskiyou line, for controlled siding,
Klamath Falls . . GNRy main track, for SP main track,
Klamath Falls . . Merrill line, from track No. 17 for Merrill line,
Klamath Falls . . OC&ERy main track, for yard track,
Montague . . . . . . YWRy main track, for house track.

Trains using McCRRR house track at Mount Shasta must leave derail lined and locked in derailing position.

Normal position of inside switches on house track Grass Lake is for the wye.

Derails on main track:
Ashland . . . . 210 feet west of east switch.

Black Butte: Operators will handle switches for Siskiyou line trains via eastward siding, Siskiyou siding or Cascade main track, as directed by train dispatcher.

When instructed by train dispatcher to set Siskiyou siding switch for westward Siskiyou line train to enter Siskiyou siding and after switch has been properly set, operator must inform a member of the crew orally that switch is set for the movement if there is a means of communication available. If no means of communication is available, operaaor must give the train a proceed signal, yellow flag by day, yellow light by night, after switch has been set for the movement.

Oral permission from operator or proceed signal with a yellow flag or light will authorize westward Siskiyou line trains to pass absolute signal displaying stop indication without stopping and enter Siskiyou siding.

This will not relieve trainmen from handling switches when operators are engaged in other duties except that operators will return these switches to normal position after use by through trains.

RULE 221. Unit for display of flashing light installed at following location:

Station	Location	Direction
Dorris	On train-order signal mast	Eastward

Display of flashing white light indicates that train-order signal is displaying proceed indication or that train-order operator has train orders ready for delivery, that such train orders do not restrict train at that station, and that train, provided it is not restricted by timetable or by train orders previously received, may pass fouling point of switch at which an opposing train may enter siding or place where time applies if there is no siding.

⊙RULE 306. The following block signals, equipped with triangular number plate displaying the letter "P", have included in their control limits some special protective device:

Eastward Signal	DUNSMUIR-KLAMATH FALLS	Westward Signal
P-3234	Slide detector fence, between MP 323.61 and MP 323.67	P-3243
P-A / P-A	Slide detector fence, MP 326.86 and MP 326.92	P-3273
P-3290	Slide detector fence MP 329.50	P-3301
P-3602	Collision detector, bridge 360.82	P-3611
P-3602	Spring switch west end siding Andesite	
P-3682	Spring switch west end westward siding Grass Lake	
	Spring switch east end eastward siding Grass Lake	P-3695
P-3728	Spring switch, west end siding, Erickson	
	Spring switch east end siding, Dorris	P-4073
P-4098	Collision detector, bridge 410.57	P-4119
P-4258	Spring switch west end siding, Texum	
	BLACK BUTTE-ASHLAND	
P-3480	Spring switch west end siding, Weed	
P-3500	Collision detector, bridge 351.73	P-3521
P-3726	Collision detector, bridge 373.54	P-3741

⊙RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

Dunsmuir: Signal 3223, on track No. 1, governs westward movements through crossover to main track only, and will remain dark until crossover switch is opened.

Klamath Falls: Trains or engines stopped by Signal 4293 may proceed at restricted speed.

Trains moving on main track in either direction will move between end of CTC and Klamath Falls Yard by block signals whose indications will supersede the superiority of trains.

Signal 4278 at derail GNRy Bieber line, top unit governs from Bieber line to Cascade line main track; lower unit governs from Bieber line to GNRy line crossing Lake Ewauna.

Signal 4277 at derail from line crossing Lake Ewauna governs to GNRy Bieber line.

Signal 4279 just east of GNRy Lake Ewauna line connection on Cascade line, lower unit governs to GNRy Bieber line or SP Merrill line.

Signal 4275.5 at fouling point ladder tracks between tracks Nos. 17 and 18 governs from all ladder tracks to Merrill line.

Siskiyou: When Signal 4112 west of Siskiyou displays proceed on diverging route eastward trains are authorized to enter siding at Siskiyou.

Ashland: If means of communication available and permission is obtained to proceed on main track or proceed signal received from yardman, green flag by day, green light by night, eastward trains may pass Signal 4284 displaying stop indication without stopping at restricted speed.

RULE 535. SPRING SWITCHES

Spring switches equipped with facing point locks are located as follows:

Location		Normal Position
Andesite	West end siding	Main track
Grass Lake	West end westward siding	Main track
Grass Lake	East end eastward siding	Main track
Erickson	West end siding	Main track
Dorris	East end siding	Main track
Texum	West end siding	Main track

Spring switches not equipped with facing point locks are located as follows:

Location		Normal Position
Dunsmuir Yard	East end track No. 18	Drill Track
Dunsmuir Yard	East end Diesel track	Engine Lead

Each of above switches equipped with switch-point indicator does not indicate track occupancy but when displaying green or red aspect governs westward movements as follows:

Green........Switch lined to normal position.
Red..........Stop and do not proceed until authorized by yardmaster or his representative unless switch is being hand operated for the movement.
Weed..........West end siding..........Main track

⊙RULE 605. INTERLOCKING

Limits of interlocking extend from westward interlocking signal, opposite MP 427, 225 feet westward to eastward interlocking signal at MP 553.16 on Alturas Subdivision and 225 feet westward to eastward interlocking signal at MP 426.95 on Texum siding.

Instructions for manual operation of dual control power switch are posted near telephone.

When necessary to hand throw these switches, permission must be obtained from signal operator and be governed by Rule 771 and 772.

RULE 760. CENTRALIZED TRAFFIC CONTROL

Centralized Traffic Control extends from eastward absolute signal at fouling point east end of siding Redding, to east switch Black Butte.

Eastward absolute signals just west of station building Black Butte display indications as follows:

Main track signal: top unit for main track; middle unit for crossover to Siskiyou line; bottom unit for crossover to controlled siding.

Controlled siding signal: top unit for crossover to main track; middle unit for Siskiyou line; bottom unit to continue movement on controlled siding. Flashing white light on this signal to left of mast indicates signal is cleared for movement out of Siskiyou siding; and to right of mast indicates signal is cleared for movement from controlled siding.

RULE 763. Trains entering CTC limits at Black Butte will display same indication and signals to the end of the subdivision. Trains leaving Dunsmuir or Dunsmuir Yard will display indicators and signals in accordance with address shown on clearance. Trains originating at other intermediate points in CTC limits will display indicators as an extra train unless otherwise instructed by train dispatcher.

Second paragraph of Rule 96 will not apply at Black Butte when there is no change in the number of sections of a schedule moving from CTC territory into train-order territory.

GENERAL REGULATIONS

RULE 825. Instructions for setting hand brakes:

Dunsmuir and Dunsmuir Yard:	
Passenger Trains	Two brakes on east end, Three brakes on west end.
Freight trains or cuts of 25 cars or less	Ten brakes on west end.
Freight trains or cuts of 26 to 50 cars	Ten brakes on west end, Five brakes on east end.
Freight trains or cuts of over 50 cars	Ten brakes on west end, Ten brakes in center of train, Five brakes on east end.
Ashland:	
Passenger trains	Two brakes on east end.
Freight trains or cuts of cars	Five brakes on east end.
Klamath Falls and Klamath Falls Yard:	
Passenger Trains	Two brakes on west end, Two brakes on east end.
Freight trains	Five brakes on west end, Five brakes on east end.

Hand brakes on east end of westward passenger trains Dunsmuir must not be set until after train stops.

Staff brakes on freight trains must be set with the assistance of brake club after train has stopped. Any employe releasing any of these brakes, must set an equal number to replace them.

When it is necessary to double over incoming freight trains at Dunsmuir Yard, trainmen will secure that portion of train not doubled over, and yardmen will secure that portion of train doubled over, with the required number of hand brakes.

Portable rail skids are hung on posts at lower end of sidings at Small, Mott, Azalea, Mount Shasta, Upton, Deetz. At Black Butte rail skid is located east of east wye switch.

When necessary to leave cars on these sidings, permission must first be obtained from chief train dispatcher, after which rail skid must be placed on rail and leading wheel of first car in descending direction run onto the rail skid, and hand brakes set if brakes are operative, before engine is detached. Trains picking up cars from these sidings must remove rail skid and return it to proper post and lock it in place with switch lock.

RULE 827. Freight trains using retaining valves on descending grade will stop as indicated, at the following stations for heat radiation:

MP 419 (Siskiyou Line)	10 minutes
MP 407 (Siskiyou Line)	10 minutes
Weed or Edgewood	10 minutes
Azalea	5 minutes
Andesite	10 minutes

(If stop of not less than 5 minutes has been made at Cougar, the stop at Andesite will not be necessary, in which event 10 minute stop must be made at Bolam.)

Freight trains with three or more dynamic brakes in operation need not stop at Andesite or Azalea for heat radiation if there is no indication of wheels overheating and in the judgment of conductor and engineer it is safe to proceed.

Freight trains, except those using retaining valves as required on trains without dynamic brakes in operation, need not stop at Hilt for heat radiation if there is no evidence of wheels overheating and in the judgment of conductor and engineer it is safe to proceed.

Engines without dynamic brake in operation running light on descending grade must stop at the above stations a sufficient length of time to permit heat radiation.

Trains handling logs, (except in gondolas), must stop before entering yard at Klamath Falls; before passing through tunnels; over Dry Canyon viaduct between Hotlum and Bolam; and over Klamath River bridge west of Hornbrook, at which time load and chains on cars of logs must be inspected.

On freight trains between Black Butte and Edgewood, Snowden and Ashland, Mt. Hebron and Dunsmuir Yard, member of train crew will observe track from rear of caboose, (except when helper engines is placed behind caboose), so train may be stopped in event of derailment or other condition requiring stopping of train. Lights placed on rear of caboose will be used at night to assist in observing track.

RULE 837. When handling passenger equipment Dunsmuir Yard, single car must not be left on track not protected by derail.

At Ashland all passenger equipment being switched must have air brakes in service on all cars.

AIR BRAKE RULES

RULE 2. When switch engine is used on yard tracks at east end of Klamath Falls, handling twenty-five cars or more, air brakes must be cut in and operative on not less than six cars.

When switch engine is used in Dunsmuir and Ashland yard limits air brakes will be cut in on cars as follows:

TONS	BRAKES
750 to 1250	5
1250 to 2000	10
2000 and over	15

⊙**RULE 3.** Standard brake pipe pressure is 90 pounds for eastward freight trains between Hilt and Ashland and for westward freight trains between Mistletoe and Dunsmuir.

⊙**RULE 17.** Retaining valves will be used on descending grades as follows:

FREIGHT AND MIXED TRAINS

With no dynamic brake in operation between Hornbrook and Ashland, all retaining valves. On loaded cars, retaining valves must be turned to high pressure position.

With no dynamic brake in operation between Black Butte and Edgewood, between Snowdon and Hornbrook, and between Grass Lake and Dunsmuir Yard, one retaining valve for each 70 tons in train.

When dynamic brake is in operation between Ashland and Hornbrook and tonnage of train exceeds 275 tons per 4-axle unit or 800 tons per 6-axle unit of dynamic brake, one retaining valve for each 100 tons in train; except when dynamic brake is in operation and pressure maintaining system of braking is being used and tonnage of train exceeds 350 tons per 4-axle unit or 900 tons per 6-axle unit of dynamic brake, one retaining valve for each 100 tons in train.

When dynamic brake is in operation between Black Butte and Edgewood, between Snowdon and Hornbrook, and between Grass Lake and Dunsmuir Yard and tonnage of train exceeds 900 tons per 4-axle unit or 1600 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train; except when dynamic brake is in operation and pressure maintaining system of braking is being used and tonnage of train exceeds 1375 tons per 4-axle unit or 1825 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train.

PASSENGER TRAINS

All retaining valves must be turned up between Hornbrook and Ashland and, when no dynamic brake is in operation, between Azalea and east switch at Dunsmuir and between Black Butte and Edgewood.

When dynamic brake is in operation between Azalea and east switch at Dunsmuir and between Black Butte and Edgewood, engineer will notify trainmen if necessary to use retaining valves.

RULE 22. Trainmen must not couple air hoses on outgoing freight trains at Dunsmuir Yard until they have been notified by the yardmaster or his representative that the switching has been completed. After trainmen have been so notified, yardmen must not perform switching on, or couple other cars or engines to the train without instructions from the yardmaster or his representative, who must notify trainmen before the intended move is made.

⊙**RULE 25.** Will apply at Siskiyou except when engineer receives positive information from trainman that air gage in caboose shows an increase in brake pipe pressure after leaving Mistletoe west, or after leaving Hilt east, and that brake pipe pressure is restored to 90 pounds as indicated by air gage in caboose before arriving Siskiyou.

Will apply at Black Butte or Deetz on eastward and westward Siskiyou Line trains and at Grass Lake on westward trains, except when conditions are favorable for making a running test between Black Butte and Deetz or between Erickson and Grass Lake, as the case may be, and engineer, after informing trainman in caboose that running test is to be made, receives positive information from trainman in caboose following the test that brakes did apply on caboose and that brake pipe pressure is being restored.

⊙**RULE 33.** Maximum tonnage per operative brake is as follows:

Black Butte to Ashland	60 tons
Azalea to Dunsmuir Yard	70 tons

PASSENGER TRAINS

RULE 38. Immediately prior to leaving Siskiyou test must be made to determine that brakes on rear car apply and release.

Trainmen must not couple or uncouple air hoses or steam conduits on passenger trains at Dunsmuir until they have been notified by the yardmaster or his representative that switching has been completed. After trainmen have been so notified, yardmen must not perform switching on, or couple other cars or engines to the train without instructions from the yardmaster or his representative who must notify trainmen before the intended move is made.

⊙**RULE 38-A.** Will not apply at Dunsmuir, except incoming engineer after completing stop will make a full service application leaving brakes applied. Running test in compliance with Rule 39 must be made as soon as speed permits after train departs terminal.

⊙**RULE 39.** Running test must be made on passenger trains as follows:

Grass Lake:	Westward trains.
Black Butte:	Eastward trains via Siskiyou Line.
Snowdon:	Eastward trains.
Siskiyou:	Eastward and Westward trains.

TRAIN HANDLING

⊙**AIR BRAKE RULE 60.** On freight trains using dynamic brake and the cycle method of braking, before entering or leaving siding, turnout or crossover on descending grade at Small, Mott, Weed, Edgewood, Mistletoe or Ashland, dynamic braking force must be reduced to one-half of the maximum and, if necessary, automatic brake applied sufficiently so that speed of 15 MPH will not be exceeded while engine is moving between points 500 feet before reaching and 1500 feet after passing turnout or crossover.

Before eastward trains move over west switch at Mistletoe, train brakes must be applied sufficiently in advance to reduce speed to not exceeding 15 MPH and dynamic brake on lead engine must be reduced to not exceeding 300 amperes. This operation must be continued until entire train has passed over switch.

On westward freight trains using dynamic brake with 80- or 85-foot trailer-flat cars entrained within first 20 cars from head end, dynamic braking force must be reduced to one-half of maximum and, if necessary, automatic brakes applied sufficiently so that speed will not exceed 15 MPH 500 feet before reaching curve at MP 328.17 and until train has passed MP 327.87.

MISCELLANEOUS

⊙**5.** Not more than three units will be placed behind 80- or 85-foot trailer-flat cars between Delta and Black Butte.

⊙**10.** Engines listed are not permitted to operate on tracks shown below:

Class of Engine	Restricted tracks
All engines	Dorris—Beyond engine restriction sign Ass'd Lbr. Co. spur.
"	Pioneer—Beyond engine restriction sign.
All engines and cars	Ashland—Beyond restriction sign on Bagley Canning spur.

At Mount Shasta, switching movements to or from McCRRR tracks Nos. 1, 2, 3 or 4, when made through the connection from siding to McCRRR main track, may be made without flag protection after ascertaining that there are no movements being made on McCRRR west of State highway. Movements on west leg of wye McCRRR track must not be made without proper flag protection.

85-foot TOFC, SP, UP, TTX and STTX cars are not to be handled on following tracks at Klamath Falls:

Switch to SP-GN Interchange Tracks, MP 427.5.
Spring switch to Diesel Fueling track.

11. Load limit (car and contents):

Dunsmuir-Klamath Falls	251,000 pounds
Black Butte-Ashland	251,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

13. LOCATION OF STOCK YARDS

Station	Capacity in cars
Dorris	4 (Water)
Worden	6
Klamath Falls	95 (Water)
Edgewood	4 (Water)
Grenada	10 (Water)

30.

LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE ON MAIN TRACK AND SIDINGS

MP	Location		Description
325.00	Dunsmuir	Sacramento River 16th crossing	Overhead and side
407.80	Dorris	Tunnel No. 17	Overhead and side
410.00	Dorris	Tunnel No. 18	Overhead and side
390.90	Ager	Klamath River bridge	Overhead and side
411.30	Siskiyou	Tunnel No. 13	Overhead and side
414.60	Siskiyou	Tunnel No. 14	Overhead and side
415.20	Siskiyou	Tunnel No. 15	Overhead and side

SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS	With Caution Not Exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
Through turnouts on other than sidings	10
On branches	10
Hornbrook, engines using wye	8

⊙SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in SPEED RESTRICTIONS FOR ENGINES appearing on page 3 and MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT, and OTHER MAXIMUM SPEEDS appearing on page 4 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and INSURE SAFETY, REGARDLESS OF TIME.

TERRITORY (MP to MP)	PASSENGER TRAINS (Column 1)	FREIGHT AND MIXED (Column 2)	LIGHT ENGINES (Column 3)
EASTWARD, DUNSMUIR YARD TO KLAMATH FALLS:			
★★321.20 to 322.57	20	20	20
322.57 to 327.87	30	20	30
327.87 to 328.17	20	15	20
328.17 to 335.61	30	25	30
335.61 to 337.87	40	35	40
337.87 to 343.94	50	40	50
343.94 to 350.79	35	30	35
350.79 to 354.97	40	30	40
354.97 to 355.50	35	30	35
355.50 to 359.01	40	40	40
359.01 to 363.71	45	40	45
363.71 to 369.45	50	45	50
369.45 to 373.76	50	50	50
373.76 to 379.12	70	55	70
379.12 to 390.10	50	50	50
390.10 to 407.35	70	55	70
407.35 to 415.27	50	50	50
415.27 to 426.89	70	55	70
426.89 to 429.50	50	40	50

TERRITORY (MP to MP)	PASSENGER TRAINS (Column 1)	FREIGHT AND MIXED (Column 2)	LIGHT ENGINES (Column 3)
WESTWARD, KLAMATH FALLS TO DUNSMUIR YARD:			
429.50 to 427.57	50	25	25
427.57 to 426.89	50	40	50
426.89 to 415.27	70	55	70
415.27 to 407.35	50	50	50
407.35 to 390.10	70	55	70
390.10 to 379.12	50	50	50
379.12 to 373.76	70	55	70
373.76 to 369.45	50	50	50
369.45 to 363.71	50	45	50
363.71 to 359.01	45	40	45
359.01 to 355.50	40	40	40
355.50 to 354.97	35	30	35
354.97 to 350.79	40	30	40
350.79 to 343.94	35	30	35
343.94 to 337.87	50	40	50
337.87 to 335.61	40	35	40
335.61 to 328.17	30	25	30
328.17 to 327.87	20	15	20
327.87 to 322.57	30	25	30
★★322.57 to 321.20	20	20	20

TERRITORY (MP to MP)	PASSENGER TRAINS (Column 1)	FREIGHT AND MIXED (Column 2)	LIGHT ENGINES (Column 3)
EASTWARD, BLACK BUTTE TO ASHLAND:			
345.20 to 355.60	25	25	25
355.60 to 359.05	30	30	30
359.05 to 360.83	40	40	40
360.83 to 372.24	50	50	50
372.24 to 375.14	25	25	25
375.14 to 381.48	50	50	50
381.48 to 391.20	25	25	25
391.20 to 394.65	30	30	30
394.65 to 407.65	20	20	20
407.65 to 407.98	15	15	15
407.98 to 413.33	20	20	20
413.33 to 413.48	15	15	15
413.48 to 414.72	20	20	20
414.72 to 415.05	15	15	15
415.05 to 417.74	20	20	20
417.74 to 418.06	15	15	15
418.06 to 426.41	20	20	20
426.41 to 428.65	30	30	30
★★★428.65 to 429.93 (street crossings)	20	20	20
429.93 to 430.78	30	20	30

TERRITORY (MP to MP)	PASSENGER TRAINS (Column 1)	FREIGHT AND MIXED (Column 2)	LIGHT ENGINES (Column 3)
WESTWARD, ASHLAND TO BLACK BUTTE:			
430.78 to 429.93	30	20	30
★★★429.93 to 428.65 (street crossings)	20	20	20
428.65 to 426.41	30	30	30
426.41 to 418.06	20	20	20
418.06 to 417.74	15	15	15
417.74 to 415.05	20	20	20
415.05 to 414.72	15	15	15
414.72 to 413.48	20	20	20
413.48 to 413.33	15	15	15
413.33 to 407.98	20	20	20
407.98 to 407.65	15	15	15
407.65 to 394.65	20	20	20
394.65 to 391.20	30	30	30
391.20 to 381.48	25	25	25
381.48 to 375.14	50	50	50
375.14 to 372.24	25	25	25
372.24 to 360.83	50	50	50
360.83 to 359.05	40	40	40
359.05 to 355.60	30	30	30
355.60 to 345.20	25	25	25

★★ICC Regulation. ★★★PUC Order.

Freight trains using retaining valves and light engines without dynamic brake in operation on descending grades between Ashland and Hornbrook must not exceed 15 MPH and light engines on descending grades elsewhere without dynamic brake in operation must not exceed speed shown for freight and mixed trains.

Freight trains without dynamic brake in operation must not exceed 20 MPH on descending grade between Mount Shasta and Dunsmuir Yard.

Identified freight trains are authorized to operate at speeds shown in Column 1 of Special Instructions except maximum speed must not exceed 60 MPH, providing consist does not exceed 60 cars or 3000 tons and tonnage does not exceed 60 tons per operative brake. When operating at such speeds, standard brake pipe pressure of 90 pounds must be maintained.

RULE 10-J. Passenger trains may operate at speed shown in Column 1 in territory where such speed is in excess of that authorized by speed sign.

Engine, flanger and caboose only may operate at speeds shown in Column 1, except maximum speed must not exceed 45 MPH on tangent track and 35 MPH on curves unless lower speed is required.

RATING OF ENGINES—In Units of 2000 Lbs. (Tons)

NOMINAL CLASS	ENGINE NUMBERS	Dunsmuir and Edgewood Dunsmuir to Black Butte	Black Butte to Grass Lake	Mt. Hebron to Dunsmuir	Grass Lake to Klamath Falls Klamath Falls to Mt. Hebron	Snowdon to Edgewood Edgewood to Hornbrook	Hornbrook to Ashland Ashland to Hilt	Hilt to Snowdon
DP-4, 7	6000 to 6004, 6017, 6018, 5900 to 5909,							
	5916, 5917	600	1000	1375	2850	....	....	....
DP-5, 6, 8 to 11	6005 to 6016, 6055 to 6058, 5910 to 5915							
	6019 to 6033, 5918 to 5924	625	1025	1400	2875	....	....	....
	6034 to 6045							
DP-12	6046 to 6054	600	1000	1375	2850	....	....	....
DF-1 to 12	6138 to 6461, 8022 to 8303, except	950	1175	1600	3175	1600	475	1000
	with 61:16 gear ratio	....	....	....	....	....	....	....
	with 60:17 gear ratio	....	....	....	....	....	....	....
DF-100	5200 to 5202	....	....	....	....	....	....	....
DF-101 to 108, 110, 112	4900 to 4902, 5203 to 5249, 5253 to 5278	975	1550	2150	4000	2200	625	1225
DF-109, 111	4903 to 4905, 5250 to 5252	1475	....	....	....	....	....	....
DF-114, 116 to 118, 120 to 122, 124, 125	5279 to 5293, 5308 to 5335, 5340 to 5444,							
	5449 to 5493	1200	1900	2600	5475	2600	775	1500
DF-115, 119, 123, 126	5294 to 5307, 5336 to 5339, 5445 to 5448,							
	5494 to 5507	1475	2275	3075	6175	3075	950	1800
DF-200 to 206	5100 to 5120	....	....	....	....	....	....	....
DF-300 to 304	4600 to 4623, 4700 to 4703	....	....	....	....	....	....	....
DF-305, 306	4624 to 4633	....	....	....	....	....	....	....
DF-307	4634 to 4645	....	....	....	....	....	....	....
DF-500, 501	4800 to 4815	....	....	....	....	....	....	....
DF-502	4816 to 4818	1200	1875	2525	4975	....	....	....
DF-603, 605, 606, 607, 611	5600 to 5719, 5730 to 5799	825	1275	1700	3400	....	....	....
DF-608 to 610	5720 to 5729	....	....	....	....	....	....	....
DS-1 to 8	1000 to 1032	285	475	660	1375	660	165	365
DS-9 to 12	1033 to 1090	....	....	....	....	....	....	....
DS-100 to 109, 111, 115, 119	1300 to 1441, 1464 to 1485, 1514 to 1528,							
	1551 to 1567	455	735	1025	2075	1025	275	565
DS-110, 114, 118	1442 to 1463, 1492 to 1513, 1539 to 1550	590	950	1300	2675	1400	365	730
DS-113, 117, 120 to 122	1486 to 1491, 1529 to 1538, 1568 to 1596	....	....	....	....	....	....	....
DS-200, 201	1900 to 1903	....	....	....	....	....	....	....

UNLESS AUTHORIZED BY SUPERINTENDENT, ENGINES WILL NOT BE PERMITTED TO OPERATE IN THOSE TERRITORIES WHERE NO RATING IS SHOWN IN ENGINE RATING TABLE.

RULE M. 4800 volt power line on signal pole line Kirk to Umli. If found broken or down extreme caution must be used and prompt report made from first available means of communication.

⊙RULES 10-H and 10-J. Between Klamath Falls and Crescent Lake speed signs may be displayed on a post below a yellow signal to indicate the maximum speed permitted one mile beyond the yellow signal. The number on such speed signs applies to all trains and should indicate the same speed as that designated by train order or timetable bulletin.

When speed signs are so displayed and the maximum speed indicated by the speed sign is in excess of that permitted by train order or timetable bulletin, be governed by the train order or timetable bulletin. In the absence of such speed signs be governed by the speed designated in the train order, timetable bulletin or by Rule 10-H.

A green signal at the limit of the restriction will be displayed in accordance with Rule 10-H.

RULE 10-J. Speed signs to left of track:

Westward	Reading
MP 438.65	65-55
MP 447.31	65-55

Speed signs to right of track with one track intervening:

Westward	Reading
MP 528.56	79-55

RULE 93. Yard limits in which the provisions of Rule 93 will apply, except within CTC limits, are established at the following points:

West MP		East MP
425.67	Klamath Falls	432.66
551.80	" (Alturas Subdivision)	
527.50	Crescent Lake	529.17

Klamath Falls: Movements of GNRy trains and engines between end of CTC and junction switch of GNRy will be directed by yardmaster.

Westward trains must not pass absolute signal displaying "Proceed on Diverging Route" at east switch unless flashing white light is displayed in signal on signal bridge at end of CTC.

Yardman's proceed signal will indicate that protection has been provided against first-class trains for trains moving between CTC limits and west end Klamath Falls Yard.

Westward trains, except first-class, standing on main track between east yard limit sign, MP 432.66 and end of CTC are not required to afford flag protection to the rear.

Crescent Lake: Trains entering yard will use track indicated in illuminated indicator located on westward SA signal at east switch for westward trains and on eastward SA signal at west switch for eastward trains.

Units for display of flashing white light located west of west ladder track and east of east ladder track leads and when displayed will authorize movement from yard tracks to beginning of CTC.

RULE 104. The normal position of rigid switches at end of double track and junctions is as follows:

Klamath Falls. . GNRy main track, for SP main track,
Gilchrist Jct. . . . KNRy main track, for interchange track,

RULE 306. The following block signals, equipped with triangular plate displaying the letter "P", have included in their control limits some special protective device.

Eastward Signal	Klamath Falls-Crescent Lake	Westward Signal
P-4406	Slide detector fence between MP 441.9 and MP 442.4	P-4423
P-4424	Slide detector fence between MP 442.4 and MP 444.0	P-4441
P-4440	Slide detector fence between MP 444.0 and MP 445.5	P-4455
P-4456	Slide detector fence between MP 445.6 and MP 446.1	P-A P-A

RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

Trains or engines stopped by Signal 4293 at Klamath Falls, may proceed at restricted speed.

Trains moving on main track in either direction will move between end of CTC and Klamath Falls Yard by block signals whose indications will supersede the superiority of trains.

Signal 4278 at derail GNRy Bieber line, top unit governs from Bieber line to Cascade line main track; lower unit governs from Bieber line to GNRy line crossing Lake Ewauna.

Signal 4277 at derail from line crossing Lake Ewauna governs to GNRy Bieber line.

Signal 4279 just east of GNRy Lake Ewauna line connection on Cascade line, lower unit governs to GNRy Bieber line or SP Alturas Subdivision.

Signal 4275.50 at fouling point ladder tracks between tracks Nos. 17 and 18 governs from all ladder tracks to Alturas Subdivision.

Crescent Lake: Trains moving on main track, in either direction, will move between end of CTC, at west switch yard track No. 1, and end of CTC, at east switch yard track No. 1, by block signals whose indications will supersede the superiority of trains.

⊙RULE 705. LETTER TYPE INDICATORS

Indicators located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and requires movement as follows:
H	Westward Absolute Signal	East Switch Diamond Lake	Westward freight trains must stop short of absolute signal on signal bridge, west end Diamond Lake and member of crew open hot bearing detector box installed on signal case opposite signal bridge. Numerals displayed by indicator inside of box indicate location of car with hot bearing in train. Top row indicates hot bearing on right side of train and lower row on left side of train in direction of movement. Numbers displayed on top row or bottom row indicate number of axles between hot bearing and rear of train. Indicator will display a maximum of four hot bearings on each side of train. All journals of car indicated by detector as well as each adjoining car must be inspected. After inspection has been completed train dispatcher must be notified of condition found. When it is safe to proceed, member of crew must push button below indicator panel to cancel numbers on the indicator. Case door must be closed and secured with switch lock. Westward passenger trains finding letter "H" displayed may proceed without stopping provided absolute signal displays proceed indication but running inspection of train must be made.

⊙RULE 760. CENTRALIZED TRAFFIC CONTROL

Centralized Traffic Control extends from eastward absolute signal at west end of crossover switch, east end of Klamath Falls MP 429.81, to westward absolute signal on signal bridge at fouling point west switch track No. 1 at Crescent Lake, MP 527.23.

When automatic block signal No. 4779, Fuego, and automatic block signal No. 5013, Diamond Lake, display flashing yellow, trains may proceed prepared to pass next signal at not exceeding medium speed. After passing signal displaying flashing yellow and next signal displays green aspect, trains may proceed at maximum speed.

Klamath Falls: Eastward absolute signal located on signal bridge at west end of crossover, at east end of yard. Upper unit governs eastward movements on drill track. Lower unit governs eastward movements to main track.

Westward absolute dwarf signal located east of west crossover switch on drill track governs westward movements on drill track.

Absolute signals governing movements on drill track will display proceed indication regardless of track occupancy between these signals unless indication is changed by train dispatcher. Switching movements may be made on drill track so long as signals governing such movements display proceed indication and Rule 775 will not apply. When these signals display stop indication, track between these signals must be cleared immediately.

Chiloquin: Westward absolute signal located on signal bridge at crossover at west end of siding.
Upper unit governs westward movements to drill track.
Lower unit governs westward movements to main track.

RULE 763. GNRy trains will display engine numbers in engine indicators instead of train numbers between Klamath Falls and Chemult.

Train indicators on extra trains will be displayed during time train is at Crescent Lake.

⊙RULE 781 will not apply to westward GNRy trains at Chemult when westward absolute signal at beginning of CTC displays a proceed indication.

GENERAL REGULATIONS

RULE 825. Instructions for setting hand brakes:
Klamath Falls and Klamath Falls Yard:

Passenger Trains............	Two brakes on west end, Two brakes on east end.
Freight trains..............	Five brakes on west end, Five brakes on east end.

Staff brakes on freight trains must be set with the assistance of brake club after train has stopped. Any employe releasing any of these brakes, must set an equal number to replace them.

⊙RULE 827. Trains handling logs must stop and crew must inspect load and chains before entering yard at Klamath Falls.

On freight trains between Kirk and Chiloquin, member of train crew will observe track from rear of caboose, (except when helper engine is placed behind caboose), so train may be stopped in event of derailment or other condition requiring stopping of train. Lights placed on rear of caboose will be used at night to assist in observing track.

AIR BRAKE RULES

FREIGHT TRAINS

RULE 2. When switch engine is used on yard tracks at east end of Klamath Falls, handling twenty-five cars or more, air brakes must be cut in and operative on not less than six cars.

RULE 3. Standard brake pipe pressure for GNRy Expediter is 90 pounds.

MISCELLANEOUS

⊙**10.** Engines listed are not permitted to operate on tracks shown below:

Class of Engine	Restricted Tracks
All...............	Beyond engine restriction sign at following locations: Wocus—Spur. Chiloquin—Stem of old wye. Yamsay—Logging tracks. Chemult—Oil spur.

85-foot TOFC, SP, UP, TTX and STTX cars are not to be handled on following tracks at Klamath Falls:
Switch to SP-GN Interchange tracks, MP 427.5.
Spring switch to Diesel Fueling track.

11. Load limit (car and contents):
Klamath Falls-Crescent Lake............251,000 pounds
Unless authorized by Superintendent, heavier loads must not be handled.

13. LOCATION OF STOCK YARDS

Station	Capacity in cars
Klamath Falls....................	95 (Water)
Chiloquin....................	40 (Water)
Lenz....................	35 (Water)
Diamond Lake....................	5 (Water)

SPECIAL INSTRUCTIONS—KIRK SUBDIVISION

⊙SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in SPEED RESTRICTIONS FOR ENGINES appearing on page 3 and MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT, and OTHER MAXIMUM SPEEDS appearing on page 4 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and INSURE SAFETY, REGARDLESS OF TIME.

TERRITORY MP — MP	PASSENGER TRAINS Column: 1	FREIGHT AND MIXED 2	LIGHT ENGINES 3
EASTWARD, KLAMATH FALLS TO CRESCENT LAKE:			
★★★429.50 to 433.91	50	40	50
433.91 to 438.65	65	55	65
438.65 to 439.02	60	55	60
439.02 to 446.56	65	55	65
446.56 to 448.14	70	55	70
448.14 to 451.81	79	60	70
451.81 to 454.81	75	60	70
★★★454.81 to 467.67	50	50	50
467.67 to 471.23	70	60	70
471.23 to 508.70	79	60	70
508.70 to 523.51	60	50	60
523.51 to 528.60	79	55	70

TERRITORY MP — MP	PASSENGER TRAINS Column: 1	FREIGHT AND MIXED 2	LIGHT ENGINES 3
WESTWARD, CRESCENT LAKE TO KLAMATH FALLS:			
528.60 to 523.51	79	55	70
523.51 to 508.70	60	50	60
508.70 to 471.23	79	60	70
471.23 to 467.67	70	60	70
★★★467.67 to 454.81	50	50	50
454.81 to 451.81	75	60	70
451.81 to 448.14	79	60	70
448.14 to 446.56	70	55	70
446.56 to 439.02	65	55	65
439.02 to 438.65	60	55	60
438.65 to 433.91	65	55	65
★★★433.91 to 429.87	50	50	50
429.87 to 429.50	50	25	25

★★★PUC Order. Crossing C.F. 430.3 and C.F. 456.6, 55 MPH.

Light engines on descending grades without dynamic brake in operation must not exceed speed shown for freight and mixed trains.

Identified freight trains are authorized to operate at speeds shown in Column 1 of Special Instructions except maximum speed must not exceed 60 MPH, providing consist does not exceed 60 cars or 3000 tons and tonnage does not exceed 60 tons per operative brake. When operating at such speeds, standard brake pipe pressure of 90 pounds must be maintained.

Engine, flanger and caboose only may operate at speeds shown in Column 1, except maximum speed must not exceed 45 MPH on tangent track and 35 MPH on curves unless lower speed is required.

SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS	With Caution Not Exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
Through turnout and siding at Calimus	20
Through turnouts and sidings at Algoma, Chiloquin, Kirk, Fuego, Lenz, Diamond Lake, Chemult, Mowich and Umli	25
Through turnouts on other than sidings	10
On branches	10
Chiloquin, stem of wye to log pond	6

RATING OF ENGINES—In Units of 2000 Lbs. (Tons)

NOMINAL CLASS	ENGINE NUMBERS	Crescent Lake to Klamath Falls	Klamath Falls to Crescent Lake
DP-4, 7	6000 to 6004, 6017, 6018, 5900 to 5909, 5916, 5917	2850	1600
DP-5, 6, 8 to 11	6005 to 6016, 6055 to 6058, 5910 to 5915; 6019 to 6033, 5918 to 5924; 6034 to 6045	2875	1625
DP-12	6046 to 6054	2850	1600
DF-1 to 12	6138 to 6461, 8022 to 8303, except	3175	1825
	with 61:16 gear ratio	....	....
	with 60:17 gear ratio	....	....
DF-100	5200 to 5202	....	....
DF-101 to 108, 110, 112	4900 to 4902, 5203 to 5249, 5253 to 5278	4000	2475
DF-109, 111	4903 to 4905, 5250 to 5252	....	....
DF-114, 116 to 118, 120 to 122, 124, 125	5279 to 5293, 5308 to 5335, 5340 to 5444, 5449 to 5493	5475	3050
DF-115, 119, 123, 126	5294 to 5307, 5336 to 5339, 5445 to 5448, 5494 to 5507	6175	3525
DF-200 to 206	5100 to 5120	....	....
DF-300 to 304	4600 to 4623, 4700 to 4703	....	....
DF-305, 306	4624 to 4633	....	....
DF-307	4634 to 4645	....	....
DF-500, 501	4800 to 4815	....	....
DF-502	4816 to 4818	4975	2925
DF-603, 605, 606, 607, 611	5600 to 5719, 5730 to 5799	3400	1950
DF-608 to 610	5720 to 5729	....	....
DS-1 to 8	1000 to 1032	1375	775
DS-9 to 12	1033 to 1090	....	....
DS-100 to 109, 111, 115, 119	1300 to 1441, 1464 to 1485, 1514 to 1528, 1551 to 1567	2075	1175
DS-110, 114, 118	1442 to 1463, 1492 to 1513, 1539 to 1550	2675	1500
DS-113, 117, 120 to 122	1486 to 1491, 1529 to 1538, 1568 to 1596	....	....
DS-200, 201	1900 to 1903	....	....

UNLESS AUTHORIZED BY SUPERINTENDENT ENGINES, EXCEPT GNRY, SPSRY and WPRR ENGINES, WILL NOT BE PERMITTED TO OPERATE IN THOSE TERRITORIES WHERE NO RATING IS SHOWN IN ENGINE RATING TABLE.

⊙**RULE 10-H.** On the Lakeview Branch, a green signal will not be displayed to the right of each track at the limit of restriction. Instead, limit of restriction will be indicated by a yellow signal displayed to the left of track in direction of approach. Speed may be resumed when engine reaches the yellow signal so displayed or when it is known by engineer that rear of train has passed the limit of restriction as specified in train order or timetable bulletin.

⊙**RULE 10-H and 15.** On Lakeview Branch, yellow signals and/or torpedoes will be placed one-half mile in advance of restriction.

⊙**RULE 93.** Yard limits in which the provisions of Rule 93 will apply, are established at the following points:

West MP		East MP
425.67	Klamath Falls	432.66
551.80	" (Alturas Subdivision)	
528.60	Tule Lake	530.40
454.93	Alturas	461.23
	" (Lakeview Branch)	460.19
421.70	Sage Hen	423.71
356.00	Wendel	359.87
	" (Westwood Branch)	359.65
510.63	Lakeview	513.05

Klamath Falls: Movements of GNRy trains and engines between end of CTC and junction switch of GNRy will be directed by yardmaster.

Trains and engines approaching Klamath Falls Yard must not pass Signal 5528 unless flashing white light is displayed on mast of this signal. Flashing white light will authorize movement to east end of track No. 17 where signal must be received from yardman before moving to receiving track.

RULE 99-C. Will apply on Lakeview Branch and between Alturas and Wendel.

RULE 103-A. Alturas: Trains and engines must stop and vehicular traffic protected by a member of crew before crossing Main St.

Public Utilities Commission orders prohibit operation of train, engine, motor or car over the following crossings unless first brought to a stop and traffic on the highway protected by a member of the crew.

Tule Lake	First crossing west of station over spur track serving Osborne Potato Cellar and Tule Lake Cold Storage, MP 529.40.
Lakeview	Western Avenue Crossing, MP 512.50.

RULE 104. The normal position of rigid switches at junctions is as follows:

Klamath Falls	GNRy main track, for SP main track,
Klamath Falls	Alturas Subdivision, for yard track No. 17,
Klamath Falls	OC&ERy main track, for yard track,
Alturas	Alturas Subdivision, for Lakeview Branch,
Wendel	For Alturas Subdivision.

RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

Klamath Falls: Trains or engines stopped by Signal 4293 may proceed at restricted speed.

Signal 4278 at derail GNRy Bieber line, top unit governs from Bieber line to Cascade line main track; lower unit governs from Bieber line to GNRy line crossing Lake Ewauna.

Signal 4277 at derail from line crossing Lake Ewauna governs to GNRy Bieber line.

Signal 4279 just east of GNRy Lake Ewauna line connection on Cascade line, lower unit governs GNRy Bieber line or SP Alturas Subdivision.

Signal 4275.50 at fouling point ladder tracks between tracks Nos. 17 and 18 governs from all ladder tracks to Alturas Subdivision.

⊙**RULE 535.** Spring switches not equipped with facing point locks are located as follows:

Location		Normal Position
*Alturas	Klamath Falls Main Track to Drill Track	Klamath Falls Main Track
*Alturas	Wye switch—Lakeview end	Wye Track
*Alturas	East end Drill Track	Drill Track
*Alturas	Klamath Falls Main Track connection to east end Wye Track	Main Track

*Equipped with switch-point indicator. Indicator does not indicate track occupancy, and will display green aspect when switch is lined for normal position. When indicator displays red aspect or unlighted, stop must be made and member of crew must examine and ascertain points are in proper position for movement before proceeding.

⊙**RULE 605. INTERLOCKING**

Limits of interlocking extend from westward interlocking signal opposite MP 427, 225 feet westward to eastward interlocking signal at MP 553.16 on Alturas Subdivision and 225 feet westward to eastward interlocking signal at MP 426.95 on Texum siding.

Instructions for manual operation of dual control power switch are posted near telephone.

When necessary to hand throw these switches, permission must be obtained from signal operator and be governed by Rules 771 and 772.

⊙**RULE 680. AUTOMATIC INTERLOCKING**

Stronghold: Crossing GNRy one-half mile east of Stronghold.

When trains are stopped by signals governing the use of automatic interlocking, flagman must be sent to crossing to operate clock-work time release. Release must not be operated when trains are between home signals or seen approaching on intersecting line.

After release has been operated, a red indicator light should be displayed over release and home signal should indicate "proceed" or red indicator on home signal mast be displayed. Trains may then proceed.

If red indicator lights are not displayed, trains may proceed over crossing as provided by Rule 663.

Instructions for operating clock-work time release are posted on door of box.

RULE 705. LETTER TYPE INDICATORS

Indicators located as follows:

Illum. Letter	On Mast Approaching	Authorizes and Requires Movement as Follows:
T at MP 359.08	Wendel	If letter "T" is illuminated stop and call operator at Wendel for instructions. If letter "T" not illuminated, proceed to fouling point of roundhouse lead unless hand signal received for movement into yard track.

GENERAL REGULATIONS

RULE 825. Instructions for setting hand brakes:

Klamath Falls and Klamath Falls Yard:

Passenger trains	Two brakes on west end, Two brakes on east end.
Freight trains	Five brakes on west end, Five brakes on east end.

Staff brakes on freight trains must be set with the assistance of brake club after train has stopped. Any employe releasing any of these brakes, must set an equal number to replace them.

⊙**RULE 827.** Trains handling logs must stop and crew must inspect load and chains before entering yard at Klamath Falls.

On freight trains between Ambrose and Canby, Likely and Wendel, member of train crew will observe track from rear of caboose, (except when helper engine is placed behind caboose) for evidence of derailment or any other condition requiring stopping of train. Light placed on rear of caboose will be used at night to assist in observing track.

With no dynamic brake in operation, eastward freight and mixed trains and light engines must stop at MP 430.00 or Indian Camp for inspection.

With no dynamic brake in operation, westward freight and mixed trains and light engines must stop at Secret for inspection.

When retaining valves are used Sage Hen to Likely or Crest to Wendel, inspection must be made as prescribed by Rule 34.

AIR BRAKE RULES

⊙**RULE 17.** Retaining valves will be used on descending grades as follows:

AMBROSE TO CANBY

Freight and Mixed Trains

With no dynamic brake in operation, one retaining valve for each 70 tons in train.

When dynamic brake is in operation and tonnage of train exceeds 900 tons per 4-axle unit or 1800 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train; except when dynamic brake is in operation and pressure maintaining system of braking is being used and tonnage of train exceeds 1800 tons per 4-axle unit or 2300 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train.

Passenger Trains

With no dynamic brake in operation, all accessible retaining valves must be turned up.

SAGE HEN TO LIKELY
SAGE HEN TO MADELINE
CREST TO KARLO
VIEWLAND TO WENDEL

Freight and Mixed Trains

With no dynamic brake in operation, one retaining valve for each 80 tons in train.

When dynamic brake is in operation and tonnage of train exceeds 1100 tons per 4-axle unit or 2400 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train; except when dynamic brake is in operation and pressure maintaining system of braking is being used and tonnage of train exceeds 1800 tons per 4-axle unit or 2700 tons per 6-axle unit of dynamic brake, one retaining valve for each 150 tons in train.

Passenger Trains

With no dynamic brake in operation, two-thirds of the retaining valves must be turned up on trains of 12 or more cars.

Freight Trains

⊙**RULE 25.** Will apply at Ambrose on westward trains and at Sage Hen on eastward and westward trains except when conditions are favorable for making a running test approaching Ambrose and at Sage Hen, as the case may be, and engineer, after informing trainman in caboose that running test is to be made, receives positive information from trainman in caboose following the test that brakes did apply on caboose and that brake pipe pressure is being restored.

Will apply on westward trains at Crest and at Viewland when continuity of brake pipe has been disturbed after leaving Sage Hen or Crest.

To avoid additional stops at stations indicated above, trains may make inspection, air brake test and turn up retaining valves when stops are made at the following stations:

Eastward:	Madeline,
Westward:	Ravendale.

⊙**RULE 33.** Maximum tonnage per operative brake is as follows:

Ambrose to Canby	70 tons
Sage Hen to Likely	80 tons
Crest to Karlo	80 tons

TRAIN HANDLING

⊙**RULE 60.** On freight trains using dynamic brake and the cycle method of braking, before entering or leaving siding, turnout or crossover on descending grade between Indian Camp and Likely or Madeline and Karlo, dynamic braking force must be reduced to one-half of the maximum and, if necessary, automatic brake applied sufficiently so that speed of 15 MPH will not be exceeded while engine is moving between points before reaching and 1500 feet after passing turnout or crossover.

PASSENGER TRAINS

RULE 39. Running air brake test must be made at Sage Hen in both directions; and at Crest and Viewland westward.

MISCELLANEOUS

10. Engines listed are not permitted to operate on tracks shown below:

Class of Engine	Restricted Tracks
All engines	Alturas—Farmers Exchange spur beyond Fourth St.

Cars or engines must not be moved beyond a point 500 feet from switch on R. L. Smith Lbr. Co. track at west end house track, Canby.

⊙**11.** Load limit (car and contents):

Alturas-Klamath Falls	251,000 pounds
Alturas-Wendel	251,000 pounds
Alturas-Lakeview	190,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

13. LOCATION OF STOCK YARDS

Station	Capacity in cars
Klamath Falls	95 (Water)
Merrill	16 (Water)
Hackamore	10
Alturas	10 (Water)
Likely	18 (Water)
Madeline	32 (Water)
Ravendale	14 (Water)
Wendel	6 (Water)
Lakeview	68 (Water)

SPECIAL INSTRUCTIONS—ALTURAS SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in SPEED RESTRICTIONS FOR ENGINES appearing on page 3 and MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT, and OTHER MAXIMUM SPEEDS appearing on page 4 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and INSURE SAFETY, REGARDLESS OF TIME.

TERRITORY (MP to MP)	PASSENGER TRAINS	FREIGHT AND MIXED	LIGHT ENGINES
Column:	1	2	3
EASTWARD, WENDEL TO KLAMATH FALLS:			
358.70 to 359.03	15	15	15
359.03 to 361.00	30	30	30
361.00 to 365.78	25	25	25
365.78 to 367.64	40	40	40
367.64 to 375.00	49	49	49
375.00 to 379.57	30	30	30
379.57 to 392.69	25	25	25
392.69 to 405.01	49	49	49
405.01 to 405.47	45	45	45
405.47 to 414.74	49	49	49
414.74 to 414.93	40	40	40
414.93 to 418.75	49	49	49
418.75 to 421.05	30	30	30
421.05 to 423.34	25	25	25
423.34 to 437.03	20	20	20
437.03 to 454.66	40	40	40
454.66 to 456.79	25	25	25
456.79 to 458.30	15	15	15
458.30 to 460.03	30	30	30
460.03 to 465.26	49	49	49
465.26 to 467.28	40	40	40
467.28 to 478.63	49	49	49
478.63 to 480.29	30	30	30
480.29 to 485.05	20	20	20
485.05 to 497.20	49	49	49
497.20 to 497.81	35	35	35
497.81 to 524.70	49	49	49
524.70 to 525.45 (GN crossing)	40	40	40
525.45 to 552.91	49	49	49
552.91 to 553.30 (427.00)	15	15	15
427.00 to 429.50	15	15	15
EASTWARD, ALTURAS TO LAKEVIEW:			
426.80 to 472.29	..	20	20
472.29 to 512.30	..	25	25

TERRITORY (MP to MP)	PASSENGER TRAINS	FREIGHT AND MIXED	LIGHT ENGINES
Column:	1	2	3
WESTWARD, KLAMATH FALLS TO WENDEL:			
429.50 to 427.00 (553.30)	15	15	15
553.30 to 552.91	15	15	15
552.91 to 526.02	49	49	49
526.02 to 525.26 (GN crossing)	40	40	40
525.26 to 497.81	49	49	49
497.81 to 497.20	35	35	35
497.20 to 485.05	49	49	49
485.05 to 480.29	20	20	20
480.29 to 478.63	30	30	30
478.63 to 467.28	49	49	49
467.28 to 465.26	40	40	40
465.26 to 460.03	49	49	49
460.03 to 458.30	30	30	30
458.30 to 456.79	15	15	15
456.79 to 454.66	25	25	25
454.66 to 437.03	40	40	40
437.03 to 423.34	20	20	20
423.34 to 421.05	25	25	25
421.05 to 418.75	30	30	30
418.75 to 414.93	49	49	49
414.93 to 414.74	40	40	40
414.74 to 405.47	49	49	49
405.47 to 405.01	45	45	45
405.01 to 392.69	49	49	49
392.69 to 379.57	25	25	25
379.57 to 375.00	30	30	30
375.00 to 367.64	49	49	49
367.64 to 365.78	40	40	40
365.78 to 361.00	25	25	25
361.00 to 359.03	30	30	30
359.03 to 358.70	15	15	15
WESTWARD, LAKEVIEW TO ALTURAS:			
512.30 to 472.29	..	25	25
472.29 to 456.80	..	20	20

Light engines on descending grades without dynamic brake in operation must not exceed speed shown for freight and mixed trains.

Identified freight trains are authorized to operate at speeds shown in Column 1 of Special Instructions except maximum speed must not exceed 60 MPH, providing consist does not exceed 60 cars or 3000 tons and tonnage does not exceed 60 tons per operative brake. When operating at such speeds, standard brake pipe pressure of 90 pounds must be maintained.

Engine, flanger and caboose only may operate at speeds shown in Column 1, except maximum speed must not exceed 45 MPH on tangent track and 35 MPH on curves unless lower speed is required.

SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS	With Caution Not Exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
Through turnouts on other than sidings	10
On branches	10
Canby, Lumber Company's spur	8
Sage Hen, on balloon track	10

RATING OF ENGINES—In Units of 2000 Lbs. (Tons)

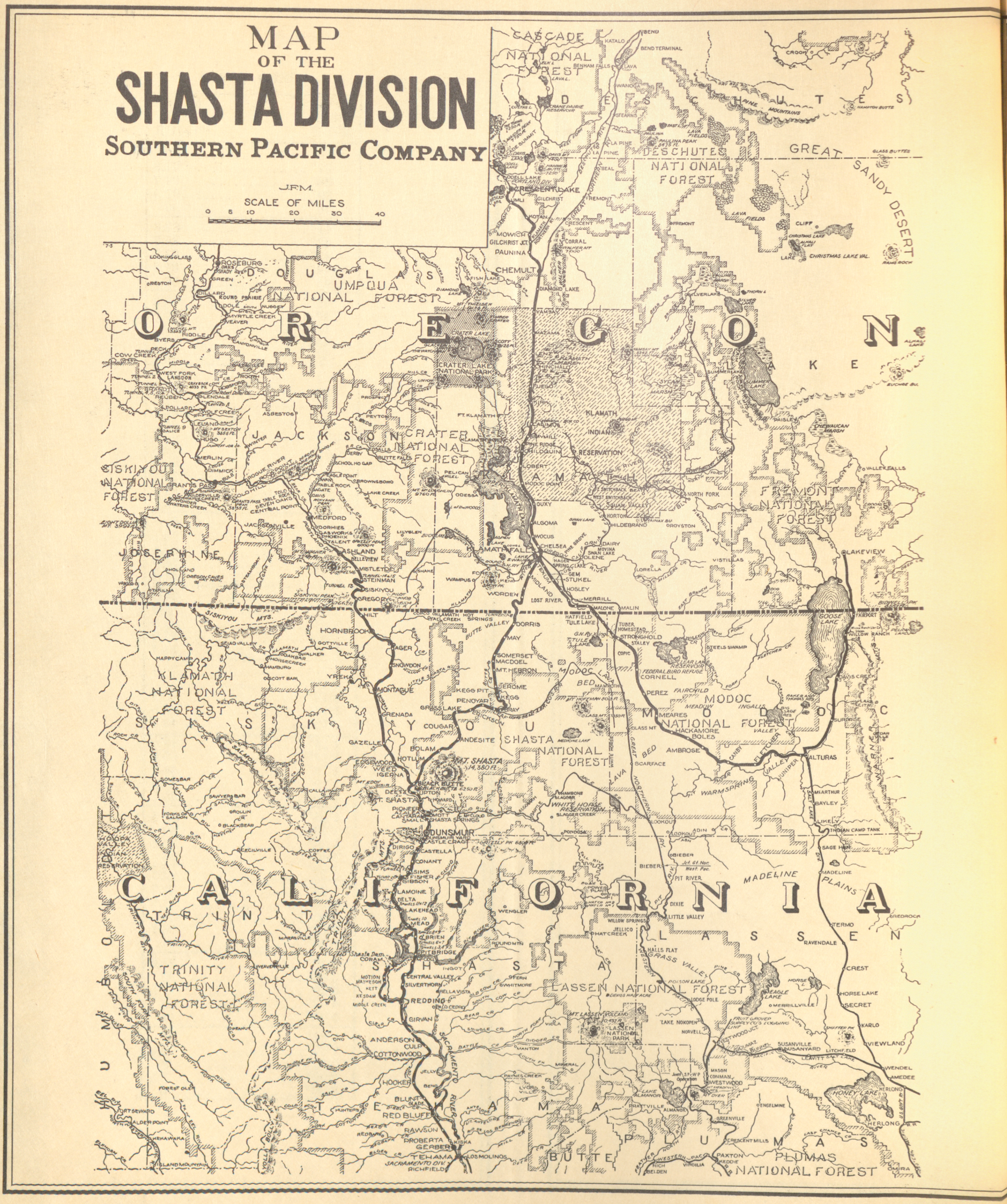
NOMINAL CLASS	ENGINE NUMBERS	Klamath Falls and Perez Canby and Alturas	Perez to Canby	Canby to Perez	Alturas and Lakeview
DF-1 to 12	6138 to 6461, 8022 to 8303, except	2200	1600	950	1325
	with 61:16 gear ratio	....	....	....	....
	with 60:17 gear ratio	....	....	....	....
DF-100	5200 to 5202	....	....	....	....
DF-101 to 108, 110, 112	4900 to 4902, 5203 to 5249, 5253 to 5278	3025	2150	975	2075
DF-109, 111	4903 to 4905, 5250 to 5252	....	....	....	2600
DF-114, 116 to 118, 120 to 122, 124, 125	5279 to 5293, 5308 to 5335, 5340 to 5444, 5449 to 5493	3700	2600	1200	1925
DF-115, 119, 123, 126	5294 to 5307, 5336 to 5339, 5445 to 5448, 5494 to 5507	4275	3075	1475	2525
DF-200 to 206	5100 to 5120	....	....	....	....
DF-300 to 304	4600 to 4623, 4700 to 4703	....	....	....	....
DF-305, 306	4624 to 4633	....	....	....	....
DF-307	4634 to 4645	....	....	....	....
DF-500, 501	4800 to 4815	....	....	....	....
DF-603, 605, 606, 607, 611	5600 to 5719, 5730 to 5799	2375	1700	825	....
DF-608 to 610	5720 to 5729	....	....	....	....
DS-1 to 8	1000 to 1032	925	660	285	550
DS-9 to 12	1033 to 1090	....	....	....	....
DS-100 to 109, 111, 115, 119	1300 to 1441, 1464 to 1485, 1514 to 1528, 1551 to 1567	1425	1025	455	825
DS-110, 114, 118	1442 to 1463, 1492 to 1513, 1539 to 1550	1825	1300	590	1050
DS-113, 117, 120 to 122	1486 to 1491, 1529 to 1538, 1568 to 1596	....	....	....	1025
DS-200, 201	1900 to 1903	....	....	....	....

NOMINAL CLASS	ENGINE NUMBERS	Likely to Sage Hen Wendel to Viewland Karlo to Crest	Sage Hen to Ravendale Crest to Karlo Viewland to Wendel Viewland to Karlo Crest to Madeline Sage Hen to Alturas	Alturas to Likely	Ravendale to Crest Madeline to Sage Hen	Karlo to Viewland
DF-1 to 12	6138 to 6461, 8022 to 8303, except	1275	6050	3150	1775	2250
	with 61:16 gear ratio	....	....	....	....	....
	with 60:17 gear ratio	....	....	....	....	....
DF-100	5200 to 5202	....	....	....	....	....
DF-101 to 108, 110, 112	4900 to 4902, 5203 to 5249, 5253 to 5278	1250	5000	4400	2050	3175
DF-109, 111	4903 to 4905, 5250 to 5252	....	....	....	....	....
DF-114, 116 to 118, 120 to 122, 124, 125	5279 to 5293, 5308 to 5335, 5340 to 5444, 5449 to 5493	1525	10000	5425	2850	3750
DF-115, 119, 123, 126	5294 to 5307, 5336 to 5339, 5445 to 5448, 5494 to 5507					
DF-200 to 206	5100 to 5120	....	....	....	....	....
DF-300 to 304	4600 to 4623, 4700 to 4703	....	....	....	....	....
DF-305, 306	4624 to 4633	....	....	....	....	....
DF-307	4634 to 4645	....	....	....	....	....
DF-500, 501	4800 to 4815	....	....	....	....	....
DF-603, 605, 606, 607	5600 to 5719	1225	10000	4075	1850	2875
DF-608 to 610	5720 to 5729	....	....	....	....	....
DS-1 to 8	1000 to 1032	400	4000	1375	400	1375
DS-9 to 12	1033 to 1090	....	....	....	....	....
DS-100 to 109, 111, 115, 119	1300 to 1441, 1464 to 1485, 1514 to 1528, 1551 to 1567	625	4000	2050	625	2050
DS-110, 114, 118	1442 to 1463, 1492 to 1513, 1539 to 1550	750	4000	2650	1075	2050
DS-113, 117, 120 to 122	1486 to 1491, 1529 to 1538, 1568 to 1596	....	....	....	....	....
DS-200, 201	1900 to 1903	....	....	....	....	....

UNLESS AUTHORIZED BY SUPERINTENDENT, ENGINES WILL NOT BE PERMITTED TO OPERATE IN THOSE TERRITORIES WHERE NO RATING IS SHOWN IN ENGINE RATING TABLE.

SPEED TABLE

TIME PER MILE	MILES PER HOUR
36″	100
37″	97.3
38″	94.7
39″	92.3
40″	90
41″	87.8
42″	85.7
43″	83.7
44″	81.8
45″	80
46″	78.3
47″	76.6
48″	75
49″	73.5
50″	72
51″	70.6
52″	69.2
53″	67.9
54″	66.7
55″	65.5
56″	64.3
57″	63.2
58″	62.1
59″	61
1′00″	60
1′01″	59
1′02″	58.1
1′03″	57.1
1′04″	56.2
1′05″	55.4
1′06″	54.5
1′07″	53.7
1′08″	52.9
1′09″	52.2
1′10″	51.4
1′11″	50.7
1′12″	50
1′13″	49.3
1′14″	48.6
1′15″	48
1′16″	47.4
1′17″	46.8
1′18″	46.2
1′19″	45.6
1′20″	45
1′25″	42.4
1′30″	40
1′35″	37.9
1′40″	36
1′45″	34.3
1′50″	32.7
1′55″	31.3
2′00″	30
2′15″	26.7
2′30″	24
2′45″	21.8
3′00″	20
3′30″	17.1
4′00″	15
5′00″	12
6′00″	10
7′00″	8.6
7′30″	8
8′00″	7.5
10′00″	6


MAP
OF THE
SHASTA DIVISION
SOUTHERN PACIFIC COMPANY
J.F.M.
SCALE OF MILES
0 5 10 20 30 40
OREGON
CALIFORNIA
DOUGLAS
UMPQUA NATIONAL FOREST
CASCADE NATIONAL FOREST
DESCHUTES NATIONAL FOREST
GREAT SANDY DESERT
LAKE
JACKSON
CRATER NATIONAL FOREST
CRATER LAKE NATIONAL PARK
KLAMATH
KLAMATH INDIAN RESERVATION
SISKIYOU NATIONAL FOREST
JOSEPHINE
FREMONT NATIONAL FOREST
GOOSE LAKE
SISKIYOU
KLAMATH NATIONAL FOREST
MODOC
MODOC NATIONAL FOREST
SHASTA NATIONAL FOREST
MT. SHASTA
TRINITY
TRINITY NATIONAL FOREST
SHASTA
LASSEN
LASSEN NATIONAL FOREST
MADELINE PLAINS
HUMBOLDT
TEHAMA
PLUMAS
PLUMAS NATIONAL FOREST
BUTTE
MEDFORD
ASHLAND
KLAMATH FALLS
DUNSMUIR
REDDING
RED BLUFF
ALTURAS
LAKEVIEW